

Meeting on June 25th 2002

Minutes taker Ina Reichel

Those present J. Corlett, I. Reichel, W. Wan, A. Zholents

Absent(excused) A. Wolski

Date June 28th 2002

Distribution

J. Corlett

I. Reichel

D. Robin

W. Wan

A. Wolski

A. Zholents

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1 Database of lattice files (I. Reichel)

It turns out we will probably not have to use “Intralink”. Current plan is to use CVS and to email the newest version once per week to a person who will put them into “Intralink” (this will be done by Ina by hand to start with but later a batch job will do that). Currently we think once a week seems reasonable but that may change.

Ina will try to get everything set up ASAP.

2 News from EPAC (J. Corlett, I. Reichel)

There was interest in the posters on our project. John gave a short summary on the status of similar projects in other labs.

3 Update on a design of the first bunch compressor (I. Reichel)

Ina found the bug why the dispersion had the same sign in both bending sections. The bending angles were actually the same due to a COPY&PASTE error.

With the current constraints (each bending section symmetric and both sections the same except for the bending angle) it is not possible to get a large enough R_{56} . So Ina is looking into putting a small chicane in. The chicane should go as close as possible to the end of the line to keep the bunch long as long as possible. However one cannot put it in the straight after the last bending magnet as this would interfere with an energy recovery upgrade. Ina is currently trying to put it in between the two bending sections. If that fails due to lack of space it will have to go right after the gun before the first bending section.

Weishi suggested to loosen the constraints on the symmetry in order to get the required R_{56} . Ina will try that before further pursuing the extra chicane.

4 “Strange seed” for Pass 3 (W. Wan)

Weishi is tracking ring 3 (using COSY) with errors and tries to correct the orbit in order to preserve the vertical emittance. Figure 5 shows tracking results before orbit correction, Fig. 6 shows the same after orbit correction. One seed sticks out which still has a large beam size. Weishi assumes it is due to coupling for which he does not correct yet. After using a different setting of the sextupole magnets, this seed also has a beam size comparable to the other seeds (see Fig. 7).

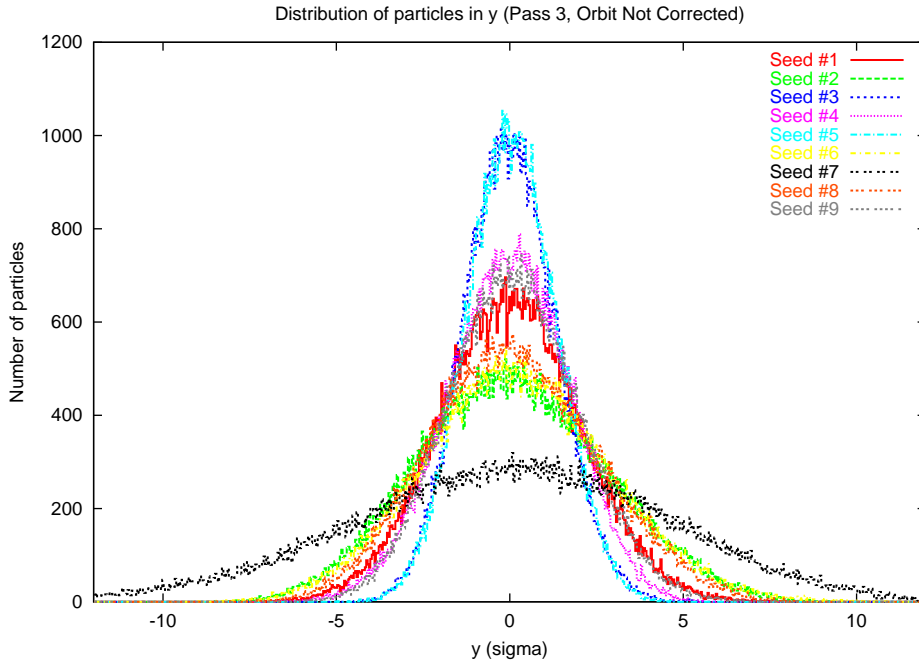


Figure 5: Tracking results (vertical particle distribution) for ring 3 before orbit correction.

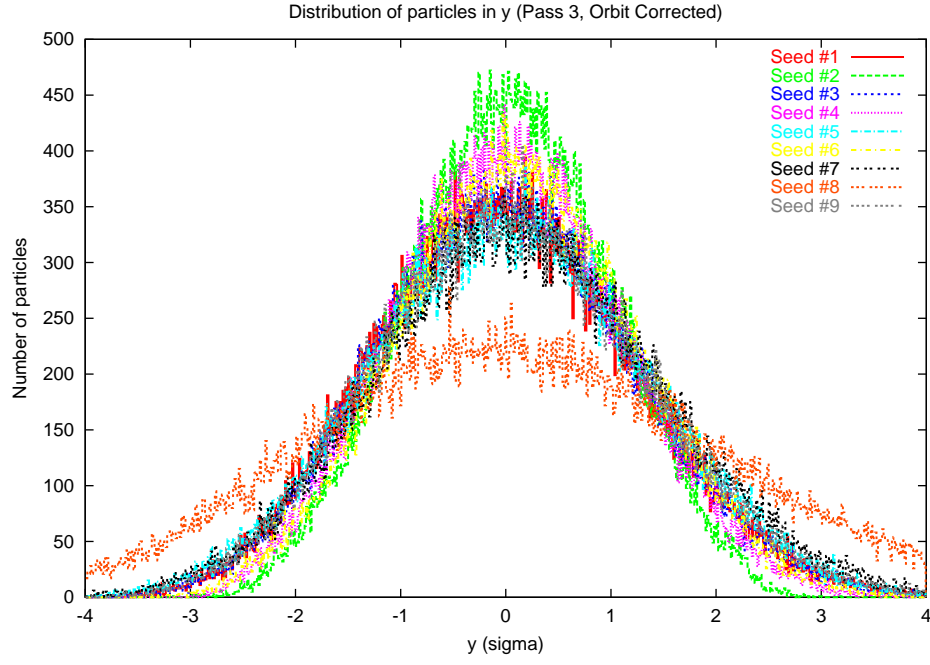


Figure 6: Tracking results (vertical particle distribution) for ring 3 after orbit correction.

Currently perfect BPMs are assumed for these studies. The results might get worse if errors on the BPMs are included. The errors are listed in Tab. 1.

Table 1: Errors used in the tracking studies.

magnet strength	$1 \cdot 10^{-3}$
magnet tilt	0.2 mrad
transverse misalignment	150 μm
longitudinal misalignment	1 mm
B_3/B_1 at 3 cm	$1 \cdot 10^{-4}$
B_3/B_2 at 5 cm	$1 \cdot 10^{-4}$

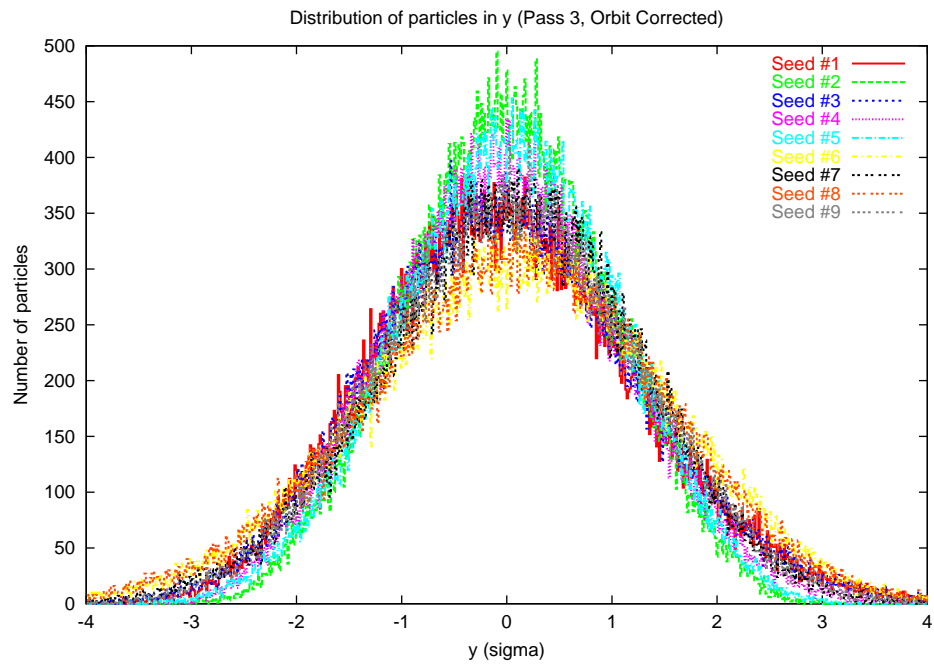


Figure 7: Tracking results (vertical particle distribution) for ring 3 after orbit correction using different settings for the sextupoles.